nondiscriminatory access (i.e., availability, timeliness, accuracy). This lack of comprehensive measures is the first deficiency that must be corrected.

96. In addition to the paucity of measures, no enlightenment is provided regarding measurements applicable to other unbundled network elements or unbundled element combinations. Ameritech, however, is silent regarding how nondiscriminatory access will be demonstrated and monitored for this crucial UNE combination.

CONCLUSION

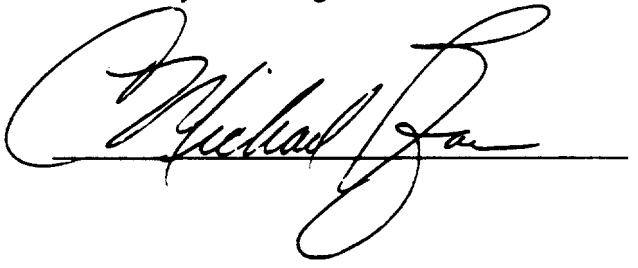
97. The interfaces proposed by Ameritech in this case for access to its operations support systems and databases do not meet those requirements because (1) CLECs cannot rely on Ameritech's interface specifications because they are still being revised, (2) several of the essential OSS interfaces which Ameritech claims to have deployed within the last month have never been used or tested by any CLEC, (3) testing of other OSS interfaces by AT&T has not produced satisfactory results, and (4) Ameritech has not demonstrated that its interfaces will provide parity of access to Ameritech's operations support systems.

98. Ameritech's proposed measurements are, at this point, inadequate to demonstrate the existence of nondiscriminatory access either to unbundled network elements in general and to operations support systems in specific. As a minimum, Ameritech needs to make numerous clarifications, expand the measures to address all the UNEs and UNE combinations requested to date, assure that the measurements will address each of the nine OSS interfaces that

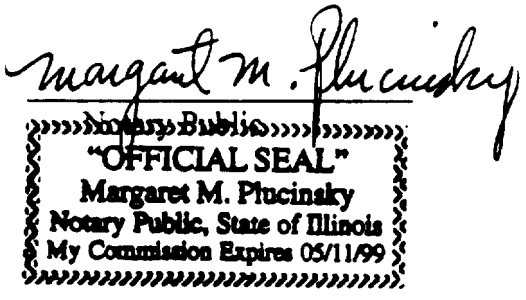
Ameritech claims to offer, commit to meaningful service and transactional level measures, show that useful statistical tests can and will be applied to demonstrate the absence of discrimination, and provide actual results that prove nondiscriminatory access is, in fact, being delivered. More importantly, the Commission must feel confident that the measurement plan ultimately produced adequately reflects the structure and detail necessary to protect developing competition in local services market.

VERIFICATION

I, C. Michael Pfau, do on oath depose and state that the facts contained in the foregoing affidavit are true and correct to the best of my knowledge and belief.



SUBSCRIBED AND SWORN to
before me this 8th day of
January, 1997.



Notary Public

"OFFICIAL SEAL"
Margaret M. Plucinsky
Notary Public, State of Illinois
My Commission Expires 05/11/99

Attachment I

Proposed Minimally Acceptable Product Detail

Overview: This document lays out local services in a hierarchical groupings and subgroupings of major local service products. In some instances, measurement of results at the product family level is appropriate. In other cases, measurements at a lower level of detail are necessary because of variations in the level of support required by a particular product within the family. The italicized text indicates the product level tracking detail proposed by Ameritech Illinois. The product families, sub-families or individual product names shown in bold typeface indicate the level AT&T believes are appropriate for initial monitoring of results.

Service Family	Sub-Family	Product	Sub-Product
Basic Local Exchange Service	Residential Exchange Service	**Single Line Service**	
		Multi-line Service	
	Business Exchange Service	**Single Line Service**	
		Multi-line Service	
CENTREX/CENTREX-like			

Attachment I

Proposed Minimally Acceptable Product Detail

Service Family	Sub-Family	Product	Sub-Product
Access lines	PBX Trunks	**Digital Trunks**	
		Analog Trunks	
	Low Capacity Access Lines	**Analog**	
		Sub-DS1 Digital	
		Coin Access	
	High Capacity Access Lines	**DS1**	
		DS3	
	ISDN	**PRI**	
		BRI	
Private Line Services	*Subrate Private Line Service*	**Low Capacity Voice Services**	2 point service
			multipoint service
		Low Capacity Data Services	**2 point service**
			multipoint service
	High Capacity Private Line Svc	**DS1 Service**	Channelized
			Unchannelized
		DS3 Service	Channelized
			Unchannelized

Attachment I

Proposed Minimally Acceptable Product Detail

Service Family	Sub-Family	Product	Sub-Product
Other Local Services	***Operator Services***		
	Directory Assistance		
	White Pages Listings		
	E911/911 Updates		
	Frame Relay		
	SONET Rings		

Notes:

1. Items in "bold" should be reported on a routine basis. At a minimum, the remaining services should be stored as subclassifications to permit subsequent and more detailed auditing of results. Further service detail should be accommodated if at all possible.
2. Additional disaggregation by Ameritech Class of Services (e.g., Flat Rated versus Message Rated) may be appropriate as well.
3. New services may take on increased service mix importance over time due to higher growth rates.
4. Due to the current lack of CLEC use of UNEs and UNE combinations, this list cannot be considered exhaustive and will require on-going augmentation.

ATTACHMENT II

Activity Metric Disaggregation By Supported Functionality[1]

The following material list, by supported process, the minimally acceptable detail for activity related performance measure important to the monitoring of nondiscriminatory support of local services.

ORDERING AND PROVISIONING

Key Measures should be available by product levels shown in the bold typeface in Attachment I. In addition, data collection and storage of these measures should accommodate display of performance, at the most discrete level specified in Attachment I, should investigation of potential discriminatory behavior become necessary.

Key Measures for Ordering and Provisioning Support

† **Provisioning Intervals**
† **Initial Failure Rates**
Held Order Intervals
† **Speed of Answer by Support Center**
Speed of Inquiry Resolution
† **Due Dates Not Met**

Each of the preceding measures should be capable of being displayed by the **Type of Activity, Activity Driver,** or any combination of the two attributes.

Type of Activity
Establish New Service (Account)
Disconnect All Services (Account)
Modify Existing Service-Add features/functions
Modify Existing Service-Delete features/functions
Modify Existing Service-Add & delete features/functions
Records Only

Activity Driver
Dispatch Required
No Dispatch Required

† Ameritech Illinois (Schedules Attached to Exhibit 8.0) indicates a willingness to supply this measure.

ATTACHMENT II

Activity Metric Disaggregation By Supported Functionality[1]

MAINTENANCE AND REPAIR

Key Measures should be available by product levels shown in the bold typeface in Attachment I. In addition, data collection and storage of these measures should accommodate display of performance, at the most discrete level specified in Attachment I, should investigation of potential discriminatory behavior become necessary.

Key Measures for Maintenance & Repair Support

† **Time to "Resolve" Trouble**
† **Repeat Troubles**
Appointments Met
† **Trouble Rate**
† **Speed of Answer by Support Center**
Speed of Inquiry Resolution

Each of the preceding measures should be capable of being displayed by the **Severity of Trouble, Necessity to Dispatch, Type of Trouble,** or any combination of the three attributes.

Severity of Trouble
Customer Out of Service
Other Troubles

Necessity to Dispatch
Premises Visit Required
No Premises Visit Required

Type of Trouble
Network Failure
Access Line Failure
Customer Requested Monitoring
No Trouble Found
Other

† Ameritech Illinois (Schedules Attached to Exhibit 8.0) indicates a willingness to supply this measure.

ATTACHMENT II

Activity Metric Disaggregation By Supported Functionality[1]

BILLING

Key Measures for the support of billing need not be subject to disaggregation by the product.

Key Measures for Billing Support
Error Correction Interval - Severity 1
Error Correction Interval - Severity >2
Data Pack Rejects
Speed of Answer by Support Center
Speed of Inquiry Resolution

NETWORK PERFORMANCE

Key Measures ideally should be available by product levels shown in the bold typeface in Attachment I. In addition, data collection and storage of these measures should accommodate display of performance, at the most discrete level specified in Attachment I, should investigation of potential discriminatory behavior become necessary. However, if such a level of detail proves infeasible, at least composite network results should be gathered and retained and, where appropriate, distinction made between voice (analog) services and higher speed data (digital) services

Key Measures for Network Quality Support[2]
Network Availability
Network Events
Dial Tone Delay[3]
Call Completion Rate[3]
Blockage Rate[3]
Post Dial Delay[3]
Errored Seconds[4]
Severely Errored Seconds[4]

† Ameritech Illinois (Schedules Attached to Exhibit 8.0) indicates a willingness to supply this measure.

ATTACHMENT II

Activity Metric Disaggregation By Supported Functionality[1]

UNBUNDLED NETWORK ELEMENTS[5]

Product disaggregation is not relevant to Key Measures for the support of Unbundled Network Elements. Measures related to access to OSS functionality are outlined within Attachment III.

Key Measures for Unbundled Network Element Support

Accuracy of Routing (e.g., to CLEC Operator Services, CLEC Directory Service or VoiceMail Platforms)

† **Availability** (e.g., collocation denied, loop element unavailable, Signaling A or D link down)

Query Cycle Time (e.g., to SCPs, LIDB)

Update Cycle Time (e.g., time to establish CLEC record in Ameritech databases)

Speed of Answer by Support Center

Speed of Response to Inquiries

† **Speed of Operator Answer**[6]

† **Speed of Directory Assistance Answer**[6]

Notes:

1. Measurement of metrics must support statistically valid comparisons to demonstrate that the CLEC performance is not worse than that experienced by Ameritech Illinois. Items in bold should be reported on an regular basis.
2. Additional transmission quality measures relating to voice services such as noise, attenuation distortion, loss, balance, signal-to-noise, cross talk, circuit notch noise would also be desirable.
3. Voice/analog service measures
4. Digital service measures
5. Due to a lack of experience with the processes to obtain and support UNEs, the following measures must be consider "preliminary" and likely to require on-going review and adjustment.
6. These metrics should be specific to the instances where Ameritech Illinois is provides the OS/DA where the CLEC is not reselling retail services of Ameritech Illinois.

† Ameritech Illinois (Schedules Attached to Exhibit 8.0) indicates a willingness to supply this measure.

Attachment III

OUTLINE OF OSS INTERFACES MEASUREMENTS[1]

The following material identifies measures relevant to the measurements at the operational support systems interfaces provided by Ameritech Illinois. Because AT&T has yet to complete end-to-end testing, AT&T is not in a position to fully assess the technical feasibility of capturing each of these measures. Nevertheless, the measures represent a reasonable starting point for determining nondiscriminatory access as they address timeliness, availability and accuracy. Each of these measures must attain performance levels not less than that experienced by Ameritech Illinois for access to the same OSS functionality.

PREORDERING TRANSACTION-BASED INTERFACE MEASURES

Interface Availability during business hours

Interface Availability outside business hours

Successful Query - Response Interval[3]

Query Failure Rates[3]

Speed of Answer by Support Center

Speed of Inquiry Closure

Attachment III

OUTLINE OF OSS INTERFACES MEASUREMENTS[1]

ORDERING AND PROVISIONING TRANSACTION-BASED INTERFACE MEASURES

Interface Availability during business hours

Interface Availability outside business hours

Firm Order Confirmation Interval

Order Reject Rate

Supplement Reject Rate

Speed of Answer by Support Center

Speed of Inquiry Closure

BATCH INTERFACES (PREORDERING, ORDERING, RECORDED USAGE, SERVICES RESALE INVOICING, UNE INVOICING)

Interval Between File Transfer Failures

Record Error Rate (% records failing to meet format standards)

Record Delivery Failure Rate (% records delivered after agreed interval)

Speed of Answer by Support Center

Speed of Inquiry Closure

Notes:

1. Measurement of metrics must support statistically valid comparisons to demonstrate that the CLEC performance is not worse than that experienced by Ameritech Illinois.
2. These measurements must be capable of being disaggregated by the primary preordering requests: Appointment Scheduling, Service Availability, Availability of $\leq$ 5 Telephone Numbers, Availability of > 5 Telephone Numbers, Availability of a Vanity Number(s), Supply of Customer Service Record(s).

STATE OF MICHIGAN
BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSION

In the matter, on the Commission's own motion, to consider Ameritech Michigan's compliance with the competitive checklist in Section 271 of the Telecommunications Act of 1996	)))))	Case No. U-11104

AFFIDAVIT OF TIMOTHY M. CONNOLLY
ON BEHALF OF AT&T COMMUNICATIONS OF MICHIGAN, INC.

STATE OF ILLINOIS)
) ss.
COUNTY OF COOK)

I, Timothy M. Connolly, being first duly sworn upon oath, do hereby depose and state as follows:

1. My name is Timothy M. Connolly. My business address is 50 Fremont Street, Suite 320, San Francisco, California, 94105.

2. I am employed by the DMR Group, Inc. I am a management consultant specializing in information systems and technology projects involving the telecommunications industry.

3. I have worked in the telecommunications industry for over twenty-five years and have spent nearly all of those years in developing, managing, planning and evaluating information systems and technologies for telecommunications carriers in the United States and around the world. I worked for AT&T for fourteen years (until 1991) in its headquarters organizations and in its domestic and international subsidiaries providing technical advice, management assistance and assessments regarding information systems and the use of

information systems in customer operations. I worked for Illinois Bell Telephone Company prior to 1984 in its customer billing and services staff departments.

4. I have a Bachelor degree in Finance from Creighton University in Omaha, Nebraska and a degree in Management from the University of Illinois at Chicago. I have done postgraduate work in economics at Rutgers University, Newark NJ and in operations planning at the Wharton School, University of Pennsylvania in Philadelphia.

5. I have provided management and technical consulting services to exchange and interexchange telecommunications carriers in the United States, Canada, Europe and Asia in a variety of projects as an independent contractor and as an employee. I have worked in technical and administrative assignments in the areas of customer support systems, operations support systems, billing and customer service systems and other technology matters. I have provided consultant services to carriers endeavoring to enter new competitive markets and advised those clients in the technological characteristics of information systems that would support entry in those new markets, here in the US and abroad. Specific examples of the systems-oriented work I have done in the past five years is attached to my testimony.

SUBJECT OF STATEMENT

6. The purpose of my statement is to respond to Ameritech's claims that it has put in place electronic interfaces for all operations support systems ("OSS") functions that are presently available and operational for competitive local exchange carriers ("CLECs") seeking to resell Ameritech's local exchange services and unbundled network element ("UNE") offerings.

7. Based on my review and analysis of Ameritech's proposed OSS interfaces and my experience with the development of operations support systems in the telecommunications industry, I conclude that the interfaces are not yet operational and, at present, fall far short of providing a reasonable degree of operational support for AT&T's entrance into the local service market.

OPERATIONS SUPPORT SYSTEMS

8. Operations support systems are the computer-based systems and data bases that telecommunications carriers use to provide essential customer and business support functions. These systems support a variety of carrier interactions with customers, including those related to (1) pre-ordering activities such as determining the customer's existing service, address verification, determining the availability of new services and features that might meet the customer's needs, telephone number assignment, and establishing a due date for service; (2) ordering services; (3) provisioning of service; (4) repair and maintenance; and (5) billing for service.

9. The accuracy, timeliness and completeness of the information used and maintained by operations support systems are critical to a carrier's efforts to satisfy its customers. Because the timeliness and reliability of support systems is so vital to providing and maintaining quality service to end-users, the performance of these systems is extremely important. Support systems that are slow to respond or unreliable undermine a carrier's efforts to ensure customers get the services they request when they request them. Quite simply, a carrier cannot conduct its business effectively or efficiently without strong, well-designed and well-developed operations support capabilities.

10. The establishment of efficient interfaces and procedures for the exchange of information between the operations support systems of Ameritech and AT&T and other CLECs is absolutely essential for the development of competition in the provision of local services. AT&T and other CLECs entering the local market on a large scale will be highly dependent upon their ability to efficiently obtain local services and unbundled network elements from Ameritech, which will depend in turn on the efficient exchange of information between AT&T and Ameritech relating to all of the OSS functions described above. Because so much of the information required by competitors resides exclusively in Ameritech's

operations support systems, Ameritech is in a unique position to control the ability of its competitors to enter the local services market and become an effective competitor.

AMERITECH'S OPERATIONS SUPPORT SYSTEMS OFFERINGS

11. Ameritech has stated that it will provide at least nine separate OSS interfaces, each supporting a different function or combination of functions. Thus, Mr. Mickens states that Ameritech will provide a pre-ordering transactional interface (EDI), a pre-ordering batch interface (file transfer), an ordering transactional interface (EDI), an ordering batch interface (ASR), a provisioning interface, a maintenance and repair interface, a usage billing information interface (EMR), a services resale billing information interface (AEBS), and a UNE billing information interface (CABS) (Mickens Aff., pp. 17).

12. Ameritech's operations support system interfaces are not presently in a state of operational readiness. Attached as Exhibit 1 is a matrix which depicts the status of the electronic operational support systems development separately for resale and the platform. As this exhibit illustrates, none of the needed systems interfaces are currently in a state of operational readiness and only certain interfaces have begun to be tested on an integrated basis. I discuss this exhibit in further detail later in my statement.

13. The interfaces to several of Ameritech's critical pre-ordering operating support systems were still not deployed in the field or available to CLECs for testing as of mid-December 1996. Even assuming that those interfaces have now been deployed, however, those interfaces have never been made available for use or testing by AT&T to determine whether they will provide the nondiscriminatory access to Ameritech's operations support systems that is required under the FCC's orders.

14. The specifications for several of Ameritech's proposed OSS interfaces for service resale have been repeatedly revised over recent months and are still being revised or clarified by Ameritech. None of the specifications other than usage Data are yet in a final

form, making design of AT&T's systems to interact with Ameritech's systems a moving target.

15. Because of these and other problems, only a very limited amount of integration testing between Ameritech and AT&T has been conducted at this time, and those testing routines are still far from complete. Moreover, the limited testing of Ameritech's interfaces that has been conducted to date by AT&T has revealed a number of problems in system interaction.

16. Discussions to date between AT&T and Ameritech have centered largely around the interfaces to be used for resale services. The discussions related to the purchase of unbundled network elements, and more importantly, combinations of unbundled network elements (the platform) have been only extremely preliminary in nature. In large part this is because AT&T and Ameritech cannot agree on how the platform will be provisioned operationally. That disagreement makes it very difficult to have menaingful discussions about how the ordering interfaces should be designed. Moreover, because there are no UNE-P tariffs or any AT&T/Ameritech interconnection agreements, AT&T is not yet in a position to order UNE-P unbundled network elements.

THE AVAILABILITY OF AMERITECH'S PROPOSED OSS INTERFACES

17. The testimony submitted by Ameritech in this case is ambiguous on the question of the present availability of some of Ameritech's proposed OSS interfaces.

18. In supplemental rebuttal testimony filed in Illinois on Friday, December 13, 1996, and submitted in this case on Monday, December 16, 1996, Ameritech's witness Mr. Rogers states that Ameritech's proposed interfaces for a number of pre-ordering functions, including access to customer service records, access to telephone number selection and assignment, due date selection and access to information regarding changes in service order status, are still "under development" and are only "scheduled for commercial deployment" in December 1996 (Rogers Supplemental Rebuttal Illinois Testimony, pp. 5, 15, 26). Mr.

Rogers also states that the interfaces required for the provisioning of resold service is still not complete (id. at 11).

19. Similarly, the affidavit of Ameritech's Mr. Dunny, submitted in this case on December 16, 1996, states that Ameritech's interfaces for the pre-ordering, ordering and provisioning functions "are currently being upgraded" and "will be made available on or before January 1, 1997" (Dunny Aff., pp. 31-32).

20. The affidavit of Ameritech's Mr. Mickens, on the other hand, also filed on December 16, 1996, states that all of these OSS interfaces are now deployed by Ameritech (Mickens Aff., pp. 16-17, 19-20).

OPERATIONAL READINESS

21. Operational readiness is the end state of a systems development effort. It is achieved when the systems are providing useful results according to design, and it is the culmination of a successful systems design process.

22. An interface between two systems is operationally ready when the two systems work together satisfactorily with the underlying systems on both sides of the interface to deliver the services for which the interface was designed.

23. Operationally ready systems interfaces have been tested by systems developers and users on both sides of the interface under testing criteria designed to simulate market conditions. Operational readiness cannot simply be unilaterally declared by Ameritech because Ameritech is only one of the interface users. Both users must work together to establish that the interfaces are operationally ready.

24. An "interface" is the nexus between two separate operations support systems. Specification documents, like those recently published by Ameritech, attempt to define the inputs and outputs that will allow the systems of two entities to communicate with each other. Once the inputs and outputs are defined through the specifications, the CLEC must

undertake comprehensive systems development activities in an effort to modify its own OSS capabilities to complement Ameritech's systems.

25. These systems development activities usually occur in several steps: systems analysis, specification refinement, system design, system development, system testing, integration testing, training and implementation.

26. The first step is systems analysis. In this step, the goals are analyzed so the specific processing needs can be laid out in broad measure. Determinations of the business functions that the system must address are made as well as preliminary decisions as to which are to be computerized and which will be manual processes. The analysis of the overall systems and the business needs cause questions to be raised on what data definitions apply, the conditions under which information is required or optional, and whether information must be obtained from data bases, supplied by customers, validated or accepted as is. Hundreds of questions are the norm, not the exception. These questions are ordinarily reviewed with the suppliers of the input and output transactions.

27. The systems analysis step is followed by a specification refinement activity. In this activity, the details and definitions of data elements, records and data bases are actually updated, recognizing that the initial specifications were not universally understood. Specification refinement can take several iterations before the parties find that all questions are resolved and no further definition is required.

29. The next step is the system design phase. The design effort takes into consideration the technical environment for the system, the various regional or local exceptions, the daily/weekly/monthly processing issues to be addressed and more. The system will be broken down into modules that are logical components for computer processing or manual methods and procedures development.

30. Once the system is designed, the actual systems development (i.e., programming) efforts are begun. Systems development is where programmers and data base

developers get to work coding the modules. The manual activities are also developed which require methods and procedures analysts to work with job or task designers to place the manual activities into logical sequences. These efforts also result in the design of forms, screens and reports. The merging of computerized modules and manual procedures are then followed by testing that is best accomplished through a structured manner and discipline.

31. System testing is the step that bears out the design and programming. Testing must separately validate the construction and development of the individual modules, the programs which comprise many modules, the systems that comprise many programs and, on an integrated basis, all of the components, both computerized and manual, under a variety of conditions. System testing demonstrates both that the system components perform according to the design of what should happen, but it also serves to demonstrate capacities or constraints in terms of volumes, seasonal differences, special processing periods and the like.

32. When systems are developed for the purpose of working with other systems, which is the case for AT&T's operations support systems and the interfaces which connect them to Ameritech's systems, the two complementary systems must also be tested in a joint manner to ensure that they will communicate properly with each other. This is referred to as end-to-end, or full integration testing. This is the opportunity for the entire spectrum of testing to be accomplished in an environment that is "safe" from customer consequence.

33. Testing must be accompanied by sufficient training to be certain that staff knows how to operate the system, to interact with the screens, forms. Accommodations must also be made for administrative functions -- i.e., the data bases must be backed up appropriately in the normal course of operations.

34. Once all these preliminary steps have been taken the system can move into the implementation phase. This phase is less complicated for a newly constructed system than it is for system change or replacement. The process of converting data bases from one system

to another is indicative of the types of additional complications that can arise during the implementation phase.

35. Once the implementation phase has been successfully completed, the systems are operationally ready.

36. In the case of Ameritech's proposed OSS interfaces, operational readiness is achieved only when the two systems are able to communicate with each other over the interface in an accurate, reliable and timely manner. As my description of the several steps involved in the process of developing compatible and operationally ready operations support systems and systems interface makes clear, far more is required than simply the sharing of technical interface specifications. The process of developing working operations support systems and interfaces is a complex and time-consuming process involving both the systems and data bases on the Ameritech side of the interface, the operations support systems on the AT&T side of the interface, and the interface itself which allows the systems on both sides to effectively communicate with each other.

PRESENT STATUS OF AMERITECH'S OSS INTERFACES

37. As I indicated earlier in my statement, in order to show the present status of Ameritech's OSS interfaces from AT&T's perspective, I have prepared a matrix which is attached as Exhibit 1 to my affidavit. In the left column of this matrix, I have listed the OSS interfaces proposed by Ameritech broken down by the principal OSS functions. Across the top of the chart, I have identified some of the key steps that are required in order to achieve operational readiness. The first page of the chart addresses the proposed OSS interfaces for service resale, and the second page is addressed to the OSS interfaces for the UNE platform.

INTERFACE SPECIFICATIONS

38. As shown on the first page of Exhibit 1, AT&T has received initial specifications from Ameritech for all of the OSS functions for service resale.

39. In several instances, however, AT&T has also received one, two, or even four specification revisions.

40. For example, between July 3, 1996, and November 8, 1996, Ameritech published four separate revisions to the specifications for its ordering interface for service resale. Moreover, the new specifications did not highlight changes from the previous versions, which means that AT&T was required to make line-by-line comparisons to identify the differences.

41. Further, when AT&T met with Ameritech on December 18, 1996, to discuss a series of questions and concerns that needed to be addressed, Ameritech agreed to produce a revised specification for POTS resale in early January and presumably will follow up at a later date with interface specification revisions to address other types of resold services. The resale ordering specifications, which have undergone the most scrutiny and analysis, are thus still being updated.

42. The specifications for some of Ameritech's other OSS interfaces are in a still more preliminary state. For example, Mr. Rogers states that the proposed interface for a number of essential pre-ordering functions, including access to customer service records, telephone number selection and assignment, due date selection, and access to service order status information were still "under development" as of mid-December 1996 (Rogers Supplemental Rebuttal Illinois Testimony, pp. 5, 15, 26).

43. As Exhibit 1 indicates, I do not believe that AT&T has received final specifications for any of Ameritech's proposed OSS interfaces other than for the EMR interface for the transfer of customer usage data.

44. The many changes that Ameritech has made to its OSS interface specifications over the last few months and the further changes promised, has serious consequences for AT&T's ability to compete in the local service market. Until Ameritech's interface specifications are finalized, AT&T's ability to design its operations support systems to

interface with Ameritech's systems is severely limited. Moreover, AT&T cannot obtain the assurance that it will be able to offer a high quality of service to its customers which it requires before it can actually enter the local market and begin offering service on a large-scale basis in Ameritech's service areas.

BUSINESS RULES

45. In order to communicate effectively with Ameritech's operations support systems and have its transactions processed, AT&T also requires additional information about the operation of Ameritech's systems. AT&T must also ascertain and adhere to Ameritech's unique "business rules" and procedures.

46. Ameritech's business rules are not simply a document, but are instead the amalgamation of Ameritech's practices, standards, tariff interpretations, competitive policies, methods and procedures, and unique system design parameters. These business rules, which are not generally reflected in the technical specifications, define valid relationships in the creation and processing of service orders. For example, AT&T must determine whether Ameritech's business rules allow order numbers to be duplicated, require information on the customer's PIC, and/or require a specific format for directory listings. Only when a service order is issued using this set of Ameritech-mandated business rules, all of which are within Ameritech's exclusive control, will the service order be completed in Ameritech's systems as requested and as promised to the customer by AT&T.

47. Ameritech's business rules and procedures are not always the same as those used by AT&T, and, initially, the AT&T systems only had access to AT&T's business rules -- not Ameritech's. AT&T and Ameritech may have different views on issues that relate to order numbers, PIC contents, USOC relationships, etc. If AT&T's rules are not synchronized with Ameritech's, the service requests will not be successfully processed in Ameritech's systems.

48. AT&T has been able to determine some of Ameritech's business rules, but only through a painstaking process of trial and error. In the recent service readiness testing of Ameritech's service resale ordering interface, for example, many of the orders submitted by AT&T were rejected by Ameritech's systems because they were formatted consistent with AT&T's business rules, but were unknowingly inconsistent with Ameritech's business rules. Although AT&T is learning Ameritech's business rules and, through the integration testing process, incorporating them into its processes and procedures, ironing out all the kinks is an extremely time-consuming process.

49. This process is further complicated by the fact that, contrary to Ameritech's contentions, Ameritech's OSS interface specifications do not always adhere to industry standards. For example, Ameritech insists on adhering to EDI Version 5.0 in its definition of its ordering interface when the other six Regional Bell Operating Companies ("RBOCs") and the rest of the telecommunications industry is deploying ordering interfaces at the EDI Version 6.0 level. To ensure that it could timely enter the local services market in Ameritech's service areas, therefore, AT&T was required to create additional computer systems to translate its ordering transactions to the earlier Version 5.0 standard.

50. Similarly, there are provisions in Ameritech's ESO Guideline (Version 3.0, November 8, 1996 "to be effective January 6, 1997") which identify numerous areas in which industry standards are essentially over-ridden by Ameritech-adopted conventions. For instance, contrary to all other ILEC requirements, Ameritech's specifications for 850 transactions for reseller contact name and telephone number note that, while this segment is optional in TCIF documentation, it is mandatory for Ameritech orders. Thus, failure to place an entry in this field will cause an Ameritech rejection.

51. Furthermore, there are no industry standards. There are standard guidelines developed by the Ordering and Billing Forum (OBF), by Bellcore, and the Telecommunications Industry Forum, but those standards are very loosely defined to allow

flexibility in the design of industry systems. Thus, while Ameritech claims that its specifications are consistent with industry standards, the degree of consistency has been and continues to be a significant issue. Indeed, the single most significant problem that AT&T has encountered while attempting to deploy operations support systems is that Ameritech has unique systems which compel unique OSS specifications and business rules. AT&T has been required to rely on integration testing to identify Ameritech's unique system parameters and design its complementing systems and its side of the interface to meet the Ameritech standards and business rules.

52. The lack of clear standards has created serious problems for AT&T in the development and testing of its own complementary operations support systems. A good example of this is in the area of processing changes to previously issued purchase orders. Under the EDI standards, changes to previously issued purchase orders are made via an "860 transaction." AT&T and Ameritech have designed their systems in a manner that are both consistent with that standard yet differ from each other.

53. Ameritech's design for processing 860 transactions requires that an 860 be used to update or change the underlying purchase order (an "850 transaction") that is already in queue. Thus, when the Ameritech system receives an 860, it looks for the predecessor 850 and relies on the predecessor order to effect the changes in the purchase order transaction.

54. AT&T's existing systems were designed to take a different approach. AT&T's business customers tend to submit many changes in the ordering process. AT&T therefore designed its systems to restate the entire order when a customer requests a change prior to completion of the original order. This procedure requires the 860 to find the underlying 850 and "refresh" its contents completely. Therefore, at any time, the 860 will show all of the newest and most current customer requests, irrespective of the content of the original order.

55. Although both of these design approaches are technically consistent with the EDI standards, they are, in fact, very different. These differences caused problems in the